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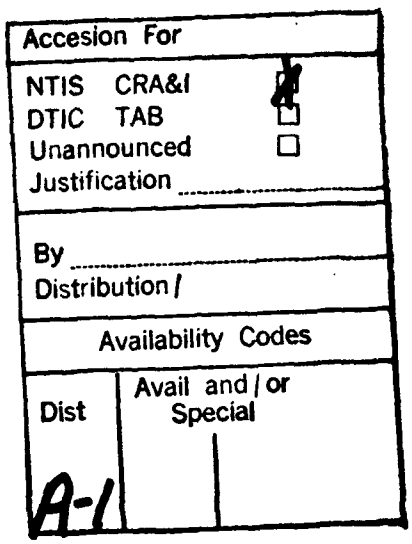

THE ENEMY MUST BE ON YOUR STAFF

by

Kathy S. Whitten
Lieutenant Colonel, USAF

A RESEARCH REPORT SUBMITTED TO THE FACULTY

IN

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Advisor: Gerald D. Casper

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April 1993

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ABSTRACT

TITLE: The Enemy Must Be On Your Staff

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Intelligence analysts, long neglected by the technology-driven USAF, must be resurrected as the human link between operational decision makers and the impersonal intelligence process which supports them. Commanders at squadron, wing, numbered air force, and major command levels want knowledgeable analysts to "represent the enemy" on their staffs. This requires fundamental changes in USAF Intelligence focus, force structure, training, education, and career management.

BIOGRAPHICAL SKETCH

Lieutenant Colonel Kathy S. Whitten is a career intelligence officer who has served as a threat analyst at wing, major command, and air staff levels. She planned and conducted Blue Flag intelligence training--including all-source collection, analysis, targeting, and unit support--for air component battle staffs supporting EUCOM, PACOM, CENTCOM, and SOUTHCOM theaters of war. As the sole intelligence representative on HQ USAF's CHECKMATE team, she participated in the JCS and CINCs' Conference War Game and the Global War Game. Colonel Whitten is a graduate of the Air War College, class of 1993.

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CHAPTER I

INTRODUCTION

> Wars begin in the minds of men . . . ignorance of each other's ways and lives has been a common cause. (11:94)

USAF Intelligence exists to serve decision makers, from the squadron pilot planning a tactical mission to the air component commander orchestrating a theater air campaign to the chief of staff managing force structure and acquisition to the commander-in-chief determining foreign policy. These are its external customers. But intelligence is not merely information that is collected and dispensed verbatim to users; rather, it is information to which *judgement* has been applied, and the credibility of the judge is every bit as important as the information itself. (2:8) Providing that judgement requires analysis--i.e., "the sifting and sorting of information about the enemy in order to isolate significant elements that may impact upon the mission." (3:14) Thus, the critical link between intelligence product and external customer is the *threat analyst* who synthesizes intelligence input and tailors its output for the individual decision maker. As such, threat analysts are the internal customers of USAF Intelligence.

Threat analysts have always worked in an environment of uncertainty, but the altered world order occasioned by the collapse of the Soviet Union in 1991 tremendously increased their burden. Absent the state of equilibrium created by two opposing

superpowers, threats today are both more numerous and more ambiguous than before. Individuals and groups--in addition to traditional nation-states--wield more power in the new multipolar world. Weapons of mass destruction are proliferating at an alarming rate and even conventional arsenals can no longer be easily divided on the basis of friend versus foe. As James Schlesinger recently wrote, "Deng Xiaoping was yesterday's hero, today's villain. Syria's Hafez al-Asad and Iran's Rafsanjani were terrorists yesterday; today they are (or seem to be) allies of sorts. What will they be tomorrow?" (4:13) There still exist terrorists, drug lords, technology thieves, and regional, ethnic, and religious zealots in the world who might do us harm--and we are going to have to know about them. (5:21-22) This is the job of the threat analyst.

Against this constantly changing backdrop of uncertainty, analysts can no longer merely focus on the military capabilities and deployments of potential adversaries. Additional effort must be made to understand the political, economic, and psycho-social instruments which influence intentions--and this is the challenge for USAF Intelligence. (6:68) Chapter II of this paper makes the case, through questionnaire results and other research data, that USAF decision makers need and want expert analysts--capable of factoring all aspects of an enemy's makeup into their assessments--to advise them. Chapter III then examines the intelligence cycle, intelligence officer training and assignments, and the technology-personnel equation to show that the present

structure and emphasis of USAF Intelligence do not foster the needed analysts. Finally, Chapter IV proposes some remedies, including a new intelligence cycle to accomodate the internal and external customers of intelligence and some needed changes in force structure, education, training, and career progression.

The overriding intent of this paper can best be expressed by a quote from Maj Gen Stuart Heintzelman, one of America's most brilliant officers of World War I, who said, "I will make my best G-3 my G-2, because I want the enemy to be represented by the best I have got. Accordingly, I will take the second best G-3 as my G-3." (7:50) Today, there is a clear line in the USAF between operations and support; expensively trained operators cannot readily be switched to intelligence support. But that is no excuse for neglecting the quality of intelligence analysts. Decision makers today, just as during World War I, deserve to have the very best intelligence advice. They must have the enemy on their staff.

CHAPTER II

DECISION MAKERS NEED EXPERT ANALYSTS

Customers Speak

Air Force operational decision makers at various levels of command want expert threat analysts on their staffs to help them assess the enemy. That statement summarizes the results of a questionnaire completed during December 1992 by 45 commanders at major command (MAJCOM), numbered air force (NAF), wing, and squadron levels. It consisted of ten questions designed to determine the value decision makers place on intelligence, any shortcomings they perceive in intelligence staff, and their view of the operations-intelligence interface. Responses are highlighted below. (See Appendix for the complete questionnaire and response statistics.)

The value of intelligence to decision makers was ascertained through responses to four questions. As a starting point, commanders were asked to rate the relative importance of sound intelligence to accomplishment of their missions. Eighty-nine percent rated it essential. Next, they were asked to narrow down the aspect of intelligence which is most important. Accuracy was assigned the highest rating by 46 percent, followed by timeliness (29 percent) and significance (24 percent). Commanders were then asked to judge the most important intelligence questions to the accomplishment of their missions. Unanimous agreement was found for the following three questions: (a) Who and where is the enemy?

(b) What are the enemy's capabilities and vulnerabilities? and (c) What is the enemy's intent? Finally, they were asked to identify areas of insight about the enemy that are essential for intelligence analysts on their staffs. Highest overall ratings were given to military (100 percent), technical (95 percent), and political (91 percent) knowledge, but over 50 percent of commanders also valued economic, historical, and psycho-social knowledge.

Three questions were posed to determine if decision makers perceived any shortcomings in their intelligence staffs. First, they were asked to rate the esteem level of their intelligence staff vis-a-vis other staff members. Eighty-four percent rated intelligence equal in esteem to other staff, 13 percent rated it lower (these responses came from wing and squadron levels), and 2 percent (one respondent at NAF level) rated it higher. Next, they were asked to specify any serious shortcomings among their intelligence staffs. Most identified operations orientation (36 percent) or experience, i.e., too junior (31 percent). Commanders were then asked how confident they were in the ability of their intelligence staffs to assess the enemy. Sixty-two percent were confident.

To determine decision makers' view of the operations-intelligence interface, three questions were asked. Commanders were first asked how they preferred to receive intelligence. Seventy-three percent wanted knowledgeable analysts on their staffs while the remainder (mostly squadron and wing commanders) were evenly split between preferring to receive products from outside

their organizations and wanting to engage in videoteleconferencing with expert analysts from outside their organizations. Next, commanders were asked to select the ideal operations-intelligence interface. Eighty-four percent viewed it as interactive, with operations and intelligence working side-by-side to constantly advise and learn from one another. The other 16 percent viewed it as two-way, with operations setting requirements and asking questions to which intelligence responds. Finally, commanders were asked whether they would like for intelligence personnel to be so knowledgeable of the enemy as to "represent him" on their staffs. Eighty-nine percent answered affirmatively.

To reiterate the overall findings: a clear majority of the decision makers surveyed expressed a need for intelligence analysts who are expert in all aspects of the enemy and who possess the experience and "operational savvy" to work side-by-side with their operator counterparts to best serve the commander.

Whose Responsibility?

Air Force Regulation 200-1 spells out the USAF Intelligence mission thusly:

> To provide information and intelligence on foreign military and military-related capabilities, intentions, and activities to those responsible for (a) developing and implementing national security policy, and (b) structuring, posturing, and employing military forces." (8:1)

Clearly, USAF Intelligence is the organization charged by the Air Force Chief of Staff to serve the intelligence needs of those involved in Air Force decision making. Moreover, USAF personnel--rather than other intelligence agencies--are in the best position

to carry out that mission because air power is unique and best understood by those who work with it. Air Force Manual 1-1 states,

> Air power's versatility derives from its ability to attack targets affecting each level of warfare at any time. In this regard, air power employment may precede other campaign efforts, or surface forces may support air forces in a joint campaign. . . . The nature of the enemy should be a primary consideration in campaign decisions. . . . Understanding the enemy requires effective intelligence organizations, capabilities, and procedures. (9:9-10)

Tailoring intelligence not only to the unique needs of air power but also to the individual needs of each commander is essential for success. As Gen Douglas MacArthur discovered during the Korean War, when Pentagon analysts disdained the idea of a landing at Inchon, independent evaluation by one's own intheater analysts--who in that case correctly assessed the feasibility and advantage of Inchon--can help a commander choose the best course of action. (10:195) Good analysis is not regurgitating what a source reveals or repeating a higher level analyst's ideas; rather, it is gathering all data that can be obtained, thinking about it, and placing it in proper perspective for the specific decision maker being served. (11:9)

This argument for expert analysts at each level of command does not preclude healthy competition among views. On the contrary, there is a continuing need for parallel estimates of all situations because no one individual or agency has cornered the market on ideas or explanations. The post-Cold War diffuse threat requires an even wider range of views than before to ensure that all potential trouble areas are projected. The decision

maker is best served by having analysts who are equal to the task of "competing" their theses against those of analysts from other organizations, all the while keeping the unique needs of their customer in mind. (1:121) Only USAF Intelligence can provide such analysts for its decision makers.

Overall Purpose

The primary purpose that is served by pairing expert analysts with decision makers at each command level is to help the latter make sound decisions. This statement seems obvious, yet it only hints at the lonely, unenviable position of military decision makers. Such persons are the ultimate risk takers vis-a-vis the enemy. Although the intelligence analyst--like other staff officers--cannot either assume or expunge the decision maker's risk, she or he can lower it considerably by increasing the accuracy of available information and thereby the confidence of expected outcome. Thus, good intelligence serves not as an academic exercise nor as an end in itself, but as a primary tool for mission accomplishment. (12:ix) It provides the keys to exercising initiative and surprise because "a military commander without an effective combat intelligence system is as handicapped as a blindfolded boxing champion; he may have a powerful punch, but he cannot see where to hit or where to protect himself from his opponent's blows." (13:1) It also enables the offensive to be decisive by illuminating when to terminate operations. Humans may delay the process of intelligence--just as they delay the

process of command--but they are necessary to the exercise of judgement, particularly when dealing with the lives of others.

Today's immediate, complex warfighting environment precludes commanders from serving as their own intelligence analysts, as Napoleon, Nelson, Dewey, and Caesar did. (14:19) Instead, intelligence professionals are required. But what has not changed is the commander's legitimate need for complete trust in the analyst's abilities to provide the information and advice needed to make winning decisions. (15:18) Therefore, the analyst who merely presents a compilation of many items of information, without having determined their significance in relation to each other or to the mission, is nothing more than a reporter or statistician--not inspiring trust. (12:29) In the end, it is the commander who must weigh all the advice and make the decision. But the commander who is served by inadequate analysis is courting disaster. It means that enemy forces are not where they were reported to be; that lucrative targets do not get attacked; that friendly aircraft get shot down; or that personnel under her or his command die needlessly. (12:ix)

The requirement to provide quality intelligence for all decision makers necessitates the assignment of expert analysts at all levels of command. The next chapter will show that USAF Intelligence does not produce expert analysts to fill that bill.

CHAPTER III

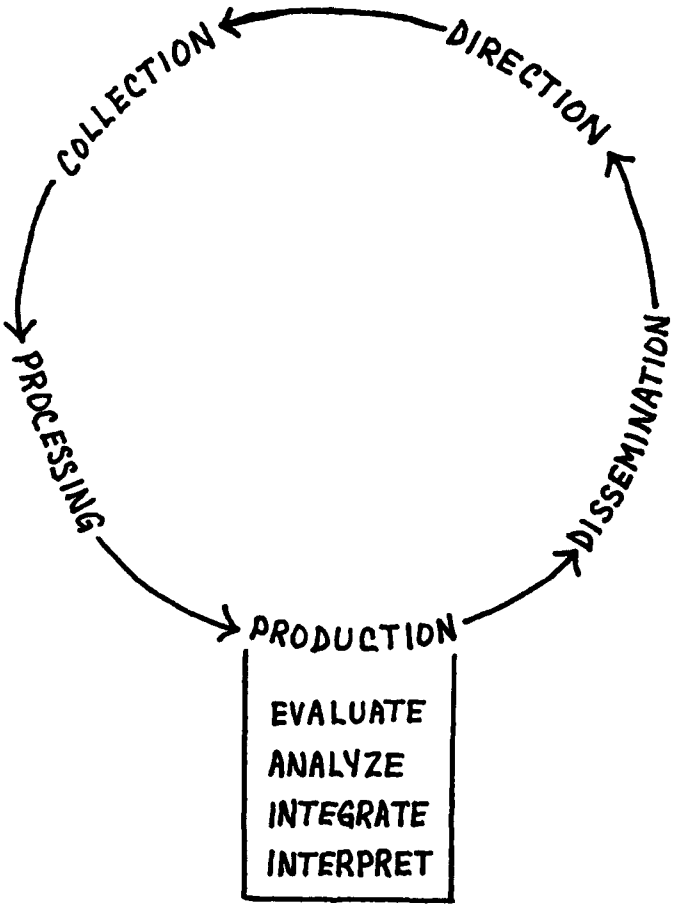
WHY EXPERT ANALYSTS ARE LACKING

Unfocused Model

The present structure and emphasis of USAF Intelligence do not encourage the cultivation of expert analysts. In part, this results from the way in which intelligence officers have traditionally viewed the intelligence process--i.e., as an interative cycle. Air Force Regulation 200-15 (rescinded 2 Jan 92, but not yet superceded) describes the intelligence cycle as consisting of five sequential steps: direction, collection, processing, production (which includes evaluating, *analyzing*, integrating, and interpreting information), and dissemination. (3:13-14) This cycle is usually depicted as a circle (see Figure 1).

A cursory examination of the intelligence cycle reveals that it dehumanizes intelligence by failing to identify the actors in each step (e.g., *who* collects, disseminates, etc.) or the ultimate users of intelligence (i.e., the external customers). Just as critical, it fails to provide an internal "driver" for this intelligence "machine." Bill Donovan, founder of the Office of Strategic Services (forerunner to the Central Intelligence Agency [CIA]) and regarded as the father of American intelligence, said, "At the center of the intelligence machine lies the analyst, and he is the fellow to whom all the information goes so that he can review it and think about it and determine what it means." (5:21) The analyst is the internal customer of intelligence,

Figure 1. INTELLIGENCE CYCLE (CURRENT)



i.e., the "bridge builder" between the external customer and the intelligence process. Yet, in this model, the analyst is not even mentioned and the function of analysis is only one of four components of production.

By not focusing on the analyst as its internal customer, the intelligence cycle also fails to show the critical link between the decision maker and the intelligence community. In reality, there is a vast storehouse of intelligence available within that community--which includes the Services, the Defense Intelligence Agency (DIA), CIA, the National Security Agency, the Department of State, and the Drug Enforcement Agency among others. Although a collector may be able to access pieces of this information as directed, it is only through analyst-to-analyst discussions and exchanges that it is culled and customized for a particular decision maker.

Finally, the unfocused intelligence cycle places too much onus on the external user. Without a trusted confidant to serve as guide, the decision maker is expected to direct intelligence collection and then make sense of its output. In practice, the analyst is frequently left out of a face-to-face dialog with the external customer. Instead, a briefing officer--chosen for her or his physical appearance and vocal skills--serves as the primary link. The result is often an image of intelligence derived from style rather than substance. This practice serves no one well. The briefer, when questioned, is usually capable of providing only limited and perhaps erroneous answers which tend to discredit the

presentation. (2:6) The analyst (with indepth knowledge) and the decision maker (who could benefit from that knowledge) are denied each other's company. As a result, the decision maker's twin burdens of uncertainty and risk are heightened rather than abated by intelligence support.

Generalist Training

The Air Force tradition of producing generalist (rather than area specialist) intelligence analysts predates the establishment of the USAF as a separate service. Following World War II, rapid demobilization created serious shortages of experienced officers. A study of this problem generated the concept that intelligence officers should possess "broad and varied backgrounds and experience" while enlisted members should receive specialist training. (16:20) Gen H. H. Arnold, Commanding General of the Army Air Corps, realized that "detailed and moment by moment knowledge of all aspects of civilian and military activity within the territory of an enemy or potential enemy is essential to sound planning in time of peace or war." (17:65) However, the officer shortage, combined with the creation in 1947 of the CIA (which supposedly could "fill in the picture" for the services) led to a USAF focus on "alien air forces"--their numbers, disposition, and capabilities, to the exclusion of other factors which influence employment. (18:41)

When manning constraints eased during the 1950s, the idea of broadening the scope of intelligence analysts again surfaced. During a lecture to the Air War College class of 1956, Gen John A.

Samford, USAF Director of Intelligence, stated, "there is a growing community of thought that the military establishment should get into the fields of political and economic warfare, as well as psychological warfare." (19:145) However, the escalating influence of technology soon overshadowed such thoughts as more officers were diverted during the 1960s through 1980s into technical specialties of imagery intelligence (IMINT), signals intelligence (SIGINT), and targeting intelligence.

Today, with USAF personnel reductions resulting from the post-Cold War military budget drawdown, generalist intelligence analysts are once again viewed as a force management necessity. On 31 October 1992, the Air Force decreased its entry level intelligence officer classification codes from six to two, thereby abandoning even the specialization of technical officers. New officers are now classified as either intelligence operations officers or intelligence applications officers. They are expected to become fully qualified in both areas before reaching field grade rank.

Analytic duties are required in both classifications. The operations officer "performs and oversees analysis and fusion of collected intelligence information to produce intelligence assessments" while the applications officer "conducts analysis to advise operational planners of options for accomplishing mission objectives" and "advises commanders on threat systems deployment, employment, tactics, capabilities, and vulnerabilities." However, both classifications are also charged with a plethora of non-

analytic responsibilities ranging from debriefing defectors to managing collection requirements to developing weaponeering methodologies. (20:A18-5, A18-7) In effect, both "specialties" devalue specialization and are purposely designed to produce officers with a wide range of experience but little depth in any particular subject.

Upon completion of their first assignment, officers may apply to attend the Area Specialist Program, a joint service school which provides country-specific familiarization and language training as a basis for area expertise. However, USAF Intelligence only sends 15 students per year through this training. In comparison, the Army enrolls at least 75 students. (21) As Lt Gen C. Norman Wood, former director of the Intelligence Community Staff, opined,

> The Army and the CIA have done a pretty good job of developing area specialists, but . . . the other services, particularly the Air Force, must find a way to do that . . . In the Air Force, we are more in the vein of being generalists, and you pay a price for that . . . to understand intentions, you have to understand the politics of the country." (6:68)

Broad Assignments

The intelligence officer assignment process does not manage career progression in a manner that permits expert analysts to flourish. For example, if an officer is assigned to Headquarters Pacific Air Forces as a Far East analyst and develops expertise in that area, it does not necessarily follow that subsequent assignments will draw on that expertise. Prior to 1991, the Air Force Military Personnel Center (AFMPC) assigned officers based on the

"whole person" concept, i.e., the broader range of experience the better. Since then, officers have been allowed to volunteer for positions; however, most perceive that multiple assignments in one area--such as "threat analyst"--will lower their promotion potential because they will be viewed as too narrow. Even graduates of the Area Specialist Program are required by AFMPC to serve only one assignment in a position which utilizes their specialty training. (21) Such a system does not allow the time nor engender the motivation for development of expert analysts.

Technology Dominates

Twenty years ago, intelligence analysts worked in a paper-intensive environment, laboriously reading cables and plotting enemy situations on mapboards. Today, sophisticated equipment such as high-speed computers, broadcast systems, radars, downlinking air and space platforms, and electro-optics have totally changed the face of intelligence work, and the technology frenzy has just begun. (22:28-29) The value of technological improvements is indisputable; they provide the means to access large amounts of information and to rapidly disseminate it to warfighters. But technology cannot satisfy the most critical aspect of the intelligence process: its ability to make information *mean* something. (11:7) Computers cannot ask original questions, yet military decision making includes so many areas where rules cannot be effectively formulated that the elements of personal competence and judgement are paramount. (14:65) As former CIA Director William E. Colby said, "The most important

thing to remember about the gathering of intelligence is that it's the assessment, not the collection, that is difficult." (1:24)

The increasing emphasis on technology has contributed to a degradation of human analytic expertise for two reasons. First, the volume of collected data is so great and arrives so rapidly that it frequently overwhelms analysts. (22:29) In an attempt to cope with this deluge, many intelligence organizations divide analysis on a functional basis--i.e., assigning responsibility for air, air defense, ground, naval, political, and so forth to separate analysts. The trouble with this arrangement is that adversaries make decisions and fight on a combined arms--not functional--basis. Therefore, analysts who study only one aspect of the enemy are not able to provide a composite assessment for the commander. Additionally, analysts are not taught the tools of analysis--i.e., recognized thought processes--that could better prepare them to make sense of large amounts of seemingly conflicting data.

The other reason for analytic shortfalls is that USAF Intelligence, enamored with new technologies, places more emphasis on efficiency than on effectiveness. With timeliness as the new paradigm, analysts need both exceptional knowledge about the enemy and expert manipulation of systems hardware and software in order to rapidly find those nuggets of gold that decision makers need. Yet, as successive generations of analytic systems are procured, analysts are devoting more time to mastering the machines and less time to contemplating the enemy.

I offer the following personal experience as evidence: As chief of intelligence for Blue Flag command and control exercises (designed to prepare battle staffs to plan and execute a theater air campaign), I repeatedly observed intelligence personnel train for their wartime missions. At each exercise, analysts spent most of their time and effort struggling to master the automated systems which were part of their wartime equipment. Analytic efforts were mostly confined to maintaining and reporting on enemy orders-of-battle and providing warning of enemy attacks. Even veterans of Operation Desert Storm were at a loss to analyze enemy air raids--an option which Iraq had not employed during the war. They could report on the numbers and types of attacking aircraft, the timing of the raids, and the general vicinity of the attacks, but they could not tie the enemy raids to probable targets, assess the success or failure of the enemy's plan, and judge what the enemy might do next based on those results. Intelligent, eager analysts were too diverted by the mechanics of the automated intelligence process--collecting and reporting on minute-by-minute events--rather than "crawling into the mind" of the enemy to answer the more difficult core questions the commander needs: what are the enemy's capabilities, vulnerabilities, and intentions?

The current fascination with technology, as well as its effect on intelligence analysis, is nothing new. Sir William Stephenson, World War II's "Intrepid," had similiar forebodings: "Now, for the first time in history we see [an abundance of means] of conveying information--and everywhere we seem in greater darkness

than before." Decades later, DIA Director Lt Gen Daniel Graham asserted that the shift to machine-produced intelligence hurt quality because "we lost sight of the total picture." (14:21) In recent years, technology has eclipsed people to such a degree that Rear Adm Thomas Brooks, former Director of Naval Intelligence, stated, "We have spent a great deal on systems in past years. I would forego systems, however, in favor of people. If I have the people, I can go out and buy equipment off the shelf a lot faster than I can train a corps of intelligence professionals." (23:76) The USAF imbalance is equally worrisome. Clearly, technology will continue to march forward and can make a very positive contribution to intelligence analysis. However, continued neglect of the human side of analysis will only serve to degrade the overall product. Senator David L. Boren, Chairman of the Senate Select Committee on Intelligence, summed it up thusly, "The last major area requiring restructuring is intelligence analysis. Again, huge expenditures on intelligence collection will be of little benefit unless there is an objective and high-quality analysis of the information presented . . . " (24:61)

The next chapter examines some of the ways in which USAF Intelligence could better cultivate expert threat analysts.

CHAPTER IV

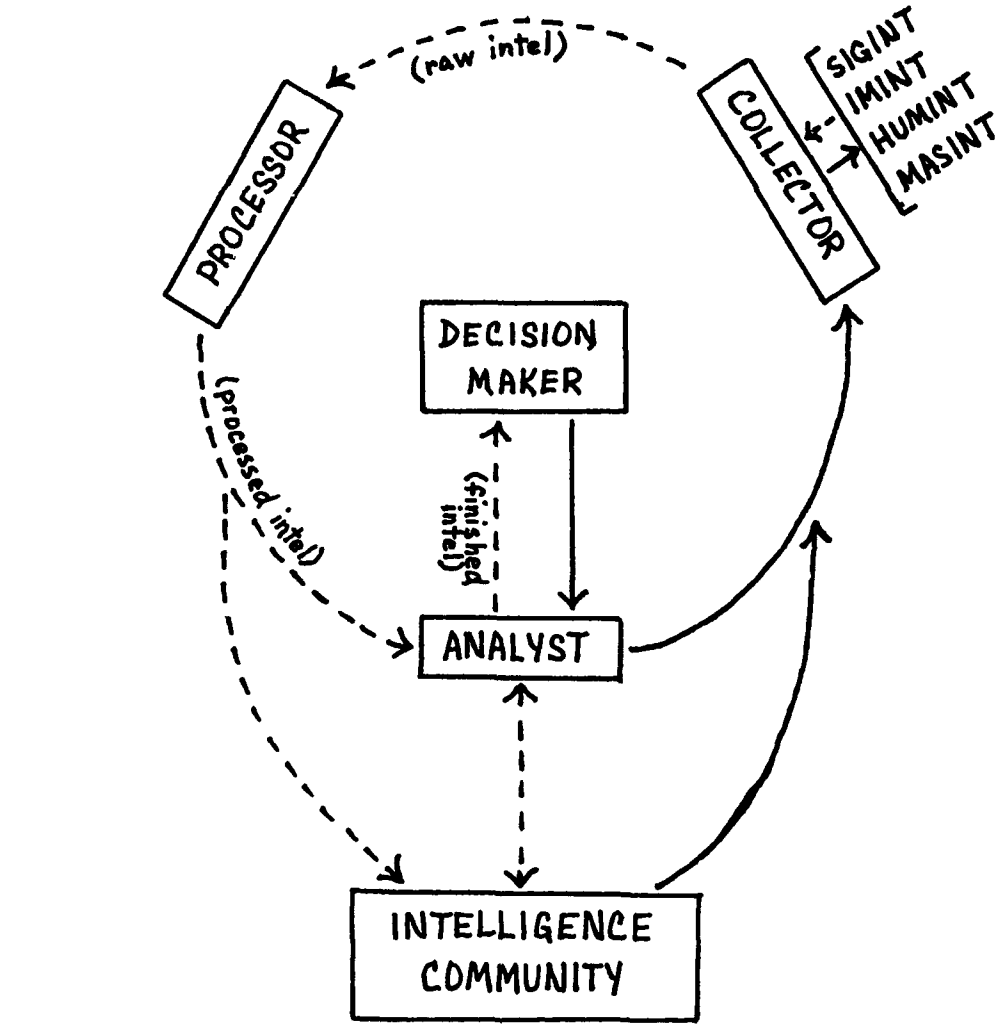
HOW EXPERT ANALYSTS CAN BE CULTIVATED

New Model

A graphic model can be a useful tool for simplifying a complex, multifaceted process such as intelligence. However, to serve as a guide for human action, the model must be more than merely a wiring diagram; in the words of Total Quality Management (TQM), it must also describe the governing relationships of process team members with each other, with their customers, and with the product being developed. (25:2-12) As discussed in Chapter III, the present intelligence cycle concerns itself with actions rather than actors and product. As a result, relationships are murky.

I propose a new model for USAF Intelligence to focus and clarify its mission (see Figure 2). At the center is the external customer, i.e., the decision maker. This person is not an intelligence professional and does not have the expertise nor time to interact individually with each actor in the cycle. Instead, closely tied to the external customer is the internal customer, the analyst. While the processor is a customer (for raw data) of the collector, who is a customer (for direction) of the analyst and decision maker, only the analyst occupies the position where the finished intelligence product comes together before being delivered to the decision maker; therefore, the analyst is the ultimate internal customer--i.e., the one who is supported by all other actors within the process. The collector supports

Figure 2. INTELLIGENCE CYCLE (PROPOSED)



analysis by tasking collection assets and receiving inputs in the form of SIGINT, IMINT, human intelligence (HUMINT), and measurement and signature intelligence (MASINT); the processor turns raw collected data (such as camera film) into a processed, useable form for the analyst; and the greater intelligence community shares other intelligence with the analyst.

In the words of Dr. W. Edward Deming, father of TQM, "Quality has no meaning without reference to the customer." (25:2) Like any other organization, USAF Intelligence must first identify and then focus on its customers, both external and internal, if it expects to provide the best product for those customers. This new model, which clearly describes the customers, suppliers, and products of intelligence, as well as the relationships between them, is an appropriate first step toward improving quality.

Restructure Forces

To match the new intelligence cycle, intelligence forces must be restructured to focus on the analyst-decision maker relationship. Following technical school, the first assignment for new intelligence officers should be a flying squadron so they can obtain *operations orientation*, a crucial ingredient for success as highlighted by questionnaire respondents at all levels. As analysts, they should concentrate on the tactical threat to aircrews, honing their expertise in military and technical skills. A graduate of the Fighter Weapons Instructor Course-Intelligence (FWIC-I) is already in place in many squadrons to supervise the junior analysts and serve as their on-the-job trainer as well as

the key intelligence spokesperson to the squadron commander. These officers have proven their credibility within Air Combat Command, and represent a significant success story for USAF Intelligence. Expanding FWIC-I to non-fighter aircraft and guaranteeing a FWIC-I graduate to every squadron will help ensure that expert analysis--tailored to squadron needs--is provided. It will also help reverse a negative view of intelligence revealed by some squadron commander respondents--i.e., the holding of intelligence in lower esteem than other staffers.

After their initial assignment, officers should be evaluated (based upon aptitude, skill, and desire) for an analytic career. Those selected would then attend an inresidence analyst school designed to provide a specialty in a specific geopolitical area as well as general analytic training (see "Analytic Training" section below). The Area Specialist Program fulfills some, but not all, of these requirements; it should be expanded or another school designed. (Officers not pursuing the area specialty track would have other worthwhile options, e.g., supervision of collectors and processors, FWIC-I attendance, or non-analytic staff work.)

In subsequent assignments--i.e., at composite wing, NAF, MAJCOM, unified command, air staff, and national agencies--analysts must concentrate on all aspects of society: political, economic, historical, and psycho-social, as well as military and technical, because decisions about air campaigns, wars, and force structure make use of all of these factors. Division of analytic effort by function (e.g., air, air defense, economic, etc.) should be

replaced by geopolitical divisions. For example, an analyst would no longer study Iraqi air forces in isolation, but rather "Iraq in toto," even expanding her or his knowledge base to that of the Persian Gulf region and, eventually, the Southwest Asia region. Just as at squadron level, the senior analyst on each team must teach junior analysts and must represent the enemy to the commander. This means discarding the common practice of assigning either special "talking dogs" or the youngest officer to brief the commander. Instead, intelligence must lead with its most experienced analyst. Young analysts will learn more from observing the good example set by a seasoned analyst than by fumbling through an embarrassing, shallow presentation of their own. And, most importantly, the commander will be better served by intelligence and more inclined to accept the intelligence spokesperson as a valuable staff member.

The traditional *officer generalist/enlisted specialist* approach must change to maximize the use of officers as analytic specialists. Merely replacing officers with enlisted analysts will not suffice because the latter, although bright and capable, do not generally have the academic credentials essential for indepth synthesis and interpretation of vast amounts of multi-faceted data. The ideal analytic team would use officers as area experts and information synthesizers while relying on enlisted members to provide such valuable support as order-of-battle and target maintenance, weaponeering, collection management, and systems manipulation.

Within the intelligence cycle as a whole, the categorization of officer versus enlisted will have to be reassessed. In order to dedicate more officers to expert analysis, the other actors--i.e., collectors and processors--will need to come primarily from the enlisted ranks, with officers serving as overall managers. This arrangement is entirely appropriate given the supported (analyst) and supporting (collector and processor) status of each actor within the cycle as well as the background required for each specialty.

Career Progression

If area specialists are to build upon their expertise over the course of their careers, a career progression plan tailored to analysts' needs must be designed and implemented. Assignments, controlled by AFMPC, will necessarily have to focus more narrowly than in the past in order to "grow" regional experts; however, that does not preclude analysts from serving at various levels. For example, a logical career progression for an area analyst might be as depicted in Figure 3. Key to this plan is the provision that, in each assignment, the area expert must concentrate on analytic work in her or his specialty area. Non-analytic jobs, such as intelligence plans and programs, systems, personnel management, and executive officer, must be discouraged because they interfere with the goal of producing a knowledgeable, trusted regional expert to assist decision makers. This career track does not preclude attendance at inresidence professional military education (PME) for those analysts who are selected;

Figure 3. TYPICAL ANALYST CAREER PROGRESSION

Assignment	Focus	Rank
Technical School	Enemy weapons systems	2d Lt
Operational Squadron	Enemy air forces	2d Lt/1st Lt
Analyst School	Country specialist	Capt
Composite Wing or NAF (Air Intel Squadron)	Country + region	Capt
MAJCOM or Unified Command (Joint Intel Center)	Region	Capt/Maj
DIA or Air Staff	Region + theater	Maj
Return to NAF, MAJCOM, or Unified Command as senior analyst	Theater	Lt Col
Senior leadership at any level	Theater + global	Col

however, as the next section proposes, much more education is needed for area experts.

The other critical aspect of career progression that must be addressed is promotion opportunity. A system which expends time and money to produce area experts but then fails to promote them beyond the rank of captain or major will not succeed. Officers will not be motivated to enter or stay in such a dead-end system; ergo, there will be no senior expert analysts. To overcome this "too narrow" stigma, senior raters at all levels must be convinced to take care of their good analysts at promotion time. This is already being done with FWIC-I graduates, whose value to decision makers is readily apparent. Additionally, promotion boards must be briefed that regional threat specialization is both normal and valuable, just as specializing in one aircraft type is for pilots.

Analytic Training

Intelligence analysis is both an artistic process and a scientific, systematic process. To assist analysts with the latter, tools which minimize amateurism and maximize disciplined thinking must be taught, preferably at an analyst school immediately following analytic specialty selection. (26:325) To illustrate:

> Good analysis is much more than simple bean counting. Numbers of aircraft are nice to know but only in the context of higher meaning--e.g., what is relevant about the number? How do their systems compare with ours in quality? What is the effect of pilot training ? How does the enemy intend to use those systems? What is the synergistic effect with other

> systems? How long can the enemy sustain operations? Answering those questions requires disciplined thinking and reflection to develop insight. (11:9-10)

Therefore, intelligence analysts should be taught the same analytic tools as other analysts. Courses in trend analysis (deductive reasoning), prognostication (inductive reasoning), and trend correlation (examination for possible reciprocity and interaction between and among trends) should be developed. (2:19-20)

Analysts must be trained to combine literal, critical, and figurative thinking to examine various options at different points in time while establishing a position, evaluating, and reaching a conclusion. (26:325) A commander's risk is less if she or he can determine which of many options the enemy will adopt. Although certainty is never possible (because even if the enemy game plan is captured, he may change his mind), the skillful analyst can significantly lower risk and reduce uncertainty by careful analysis of clues. (27:9) In intelligence, a single important fact omitted or a single wrong idea about logical relationships can lead to disaster. To send aircraft to bomb the wrong target, or to predict enemy defense when he is planning an attack, or to diagnose the political condition of a foreign country as stable just before a revolution is an error that is not easily redeemable. Only extraordinary pains by the analyst can produce a tolerable product. (19:111) Maj Gen H. P. Smith, an intelligence officer during the 1970s, stated,

> Use of scales, trend charts, and comparisons would have helped us compare pre-October 1973 activities with other

> periods and, in retrospect, we later saw how such comparison would have alerted us to an increase in Arab readiness, determination, and proficiency not present to the same degree during other times. (1:139)

Today, "sound intelligence is as far removed from crystal-ball gazing as modern medicine is from witchcraft." (12:x) Capabilities can certainly be measured with a degree of mathematical exactitude, but so can intentions. It is not sufficient for an analyst to state that the enemy has the capability to develop a certain system; rather, capabilities must be linked with intent--by systematically examining the political, economic, and social factors which influence it--to avoid misconceptions and misinterpretation. (2:23)

Finally, analysts must be trained to recognize their own error-inducing biases. Knowledge of perceptual biases (i.e., what data gets considered) can help analysts avoid such common pitfalls as: seeing what is expected; reluctance to discard early data; and wishful thinking. Similarly, knowledge of cognitive biases (i.e., how data is considered) can help analysts compensate for: assigning higher probability to readily available data; reluctance to incrementally adjust data; ignoring pieces that do not fit a preconceived picture; ignoring the absence of crucial data that would validate an interpretation; creating patterns where none exist; and stubborn persistence even when disproven. Healthy skepticism, dissent, rigorous logic, and specification of assumptions are safeguards against the biases that can lead to

intelligence failures; these tools can and should be taught to all new analysts. (14:111-113)

Ongoing Education

Even with career management and analytic training, indepth expertise will not automatically follow. Concurrent with on-the-job experience must be a structured, rigorous education program--in the form of individual study courses designed by senior analysts and managed by the new Air Education and Training Command--to form and nurture analysts. This program must require analysts to study the history and principles of warfare, including the theories of Clausewitz, Jomini, and Sun Tzu. Such topics are presently found in the curricula of inresidence PME, i.e., intermediate and senior service schools, but those programs are offered to too few and fall too late in the careers of officers to benefit fledgling analysts. Additionally, a professional reading program--including general works on history, foreign affairs, and national security decision making, as well as works tailored to the analyst's specialty area--is a must for an expert thinker. Language training, begun at analyst school, should be continued so that analysts can expand their reading repertoires to include publications originating in their specialty area, thus increasing understanding of the enemy's culture, rhetoric, and viewpoint. In addition, provisions for foreign travel, conferences, and analyst-to-analyst exchanges should be budgeted by each unit. The overall emphasis of ongoing analyst education must be placed on human

responses to perceived reality, i.e., viewing the world "through the eyes" of the actors in a particular region.

Operator Involvement

It is vitally important that analysts be "operations oriented"; in fact, failure in this area was the shortfall most often cited by questionnaire respondents. However, analysts do not acquire operational awareness by osmosis; rather, it must be taught by experts in that field, i.e., by operators. Just as analysts teach operators about the threat, operators must teach analysts about their unique weapon systems, language, tactics, and missions. A formalized program to accomplish this training at squadron level should be established. Operators should determine the requirements (based upon how "ops smart" they want analysts to be), design the program, and task themselves by Air Force regulation. The benefits to operators will be threefold: analysts will be better able to tailor intelligence, thus saving operators' time; analysts will better understand "blue/gray" systems, many of which are now in the arsenals of potential enemies; and a cohesive operations-intelligence team will result in higher overall mission quality.

Operational commanders must also become more involved with analyst training. As with other staff officers, the commander must take the analyst under her or his wing to develop battle skills. This includes having a focus of interest on the enemy rather than asking either for "everything" or "nothing." (15:19) It also means practicing requesting intelligence during peacetime so that its capabilities and limitations, as well as the

mechanism for receiving it, will be understood during war. (28:71) Commanders must stop using analysts merely as exercise scenario writers and control groups (which exercises their imaginations but not their analytic skills) and instead force them to deal with uncertainty. (29:16) If the commander ignores or excludes the analyst or intelligence product, they will likely be unfocused and inferior. But if the commander's attitude is receptive and inclusive, the analyst will gravitate toward seeking job satisfaction through better service to the commander. Finally, commanders must develop the mindset that an intelligence failure is an operational failure that requires attention by both parties; otherwise, intelligence support will never succeed. (15:19-20)

CHAPTER V

CONCLUSIONS

With the Cold War over, the Air Force needs to refocus its intelligence efforts to accomodate the uncertainties of today's diffuse, ambiguous threat. In such an environment, quality analyses depend more than ever on the skill and competence of individual analysts. Understanding political, economic, psycho-social, and historical interests, as well as military and technological capabilities, is essential for characterizing multi-dimensional adversaries.

Therefore, it is time that the Air Force retire the old view--inherited from the Army--that "any officer can perform any duty commensurate with his [or her] rank." (19:116) The Air Force must develop real analytic specialists who are capable of satisfying decision makers' needs at all levels of command. This requires careful selection and training of analysts, supportive intelligence and operations structures, and enhancing career management.

The proposals offered in this paper are a starting point for restructuring USAF Intelligence to produce expert analysts. Action is imperative because "in times of peace, Intelligence is an active belligerent while Operations waits on the bench for the shooting war to start." (7:72)

APPENDIX

INTELLIGENCE QUESTIONNAIRE FOR COMMANDERS

DECEMBER 1992

This questionnaire was sent to operational commanders at the following levels: six MAJCOM, 11 NAF, 20 wing, and 20 squadron. Respondents numbered: four MAJCOM, 10 NAF, 17 wing, and 14 squadron, for a total of 45. Below each question are response statistics in both aggregate numbers and percentages of total responses.

1. To successfully accomplish my mission, I view sound intelligence as (circle one):

a. Essential
b. Important but not essential
c. Nice to have
d. Unnecessary

	MAJCOM	NAF	WING	SQ	
a	4	10	15	11	89 %
b	0	0	2	2	9 %
c	0	0	0	1	2 %
d	0	0	0	0	

2. Rate the importance of the following aspects of intelligence to the accomplishment of your mission. (1 is most important; 4 is least important)

a. ____ Timeliness
b. ____ Accuracy
c. ____ Significance
d. ____ Completeness
e. All are equally important

	MAJCOM	NAF	WING	SQ	
a	1	5	3	4	29 %
b	3	4	7	7	46 %
c	2	3	4	2	24 %
d	0	0	0	0	
e	0	2	4	3	20 %

Note: Only highest ratings (i.e., number "1" assigned) are tallied. Percentages do not total 100 because several respondents assigned the highest rating to multiple choices.

3. The most important intelligence questions for the accomplishment of my mission are: (a) who and where is the enemy? (b) what are the enemy's capabilities and vulnerabilities? and (c) what is the enemy's intent? (circle one)

a. Strongly agree
b. Agree
c. No opinion
d. Disagree
e. Strongly disagree

	MAJCOM	NAF	WING	SQ	
a	1	4	9	9	51 %
b	3	6	8	5	49 %
c	0	0	0	0	
d	0	0	0	0	
e	0	0	0	0	

Note: One NAF commander also added "what does the enemy know about us and what does he think we are doing?"

4. To understand the enemy, intelligence analysts on my staff must possess insight in the following areas (check all that apply):

a. _____ Military
b. _____ Political
c. _____ Economic
d. _____ Psycho-social
e. _____ Technical
f. _____ Historical

	MAJCOM	NAF	WING	SQ	
a	4	10	17	14	100 %
b	4	10	15	12	91 %
c	3	7	10	8	62 %
d	3	9	11	11	76 %
e	4	9	16	14	96 %
f	3	9	16	9	82 %

Note: This question is scored differently because each respondent checked multiple choices.

5. In general, intelligence personnel on my staff are held in _____ esteem vis-a-vis other members of my staff. (circle one)

a. Higher
b. Lower
c. Equal

	MAJCOM	NAF	WING	SQ	
a	0	1	0	0	2 %
b	0	0	2	4	13 %
c	4	9	15	10	84 %

6. In my view, the most serious shortfall among intelligence personnel on my staff is their lack of (circle one):

a. Experience (too junior)
b. Training (in intelligence skills)
c. Operational orientation
d. Other: _____
e. None; there is no serious shortfall

	MAJCOM	NAF	WING	SQ	
a	1	2	7	4	31 %
b	0	0	3	0	7 %
c	2	2	5	7	36 %
d	1	2	0	2	11 %
e	0	4	2	1	15%

Note: Write-in responses included "fear of failure inhibits willingness to project" (MAJCOM); "access to material" (NAF); "ability to make sense out of the avalanche of info/data" (NAF); "connectivity to higher levels of information" (SQ); and "inability to get current, pertinent data" (SQ).

7. I am confident that intelligence analysts on my staff can provide answers I need to the most important questions about the enemy. (circle one)

a. Strongly agree
b. Agree
c. No opinion
d. Disagree
e. Strongly disagree

	MAJCOM	NAF	WING	SQ	
a	0	0	2	0	4 %
b	4	6	11	5	58 %
c	0	0	2	2	9 %
d	0	4	2	7	29 %
e	0	0	0	0	

8. How would you prefer to receive intelligence? (1 is most preferred; 4 is least preferred)

a. ____ Hardcopy/softcopy/video products from higher headquarters or other agencies
b. ____ Real-time video teleconference with intelligence analysts at higher headquarters or other agencies
c. ____ Knowledgeable analysts on my staff
d. ____ Other: _____

	MAJCOM	NAF	WING	SQ	
a	0	2	0	4	13 %
b	0	0	3	3	13 %
c	4	8	14	7	73 %
d	0	0	0	0	

9. I view the ideal operations-intelligence interface as (circle one):

a. One-way: intelligence information flows to operations
b. Two-way: operations sets requirements and asks questions to which intelligence responds
c. Interactive: operations and intelligence work side-by-side, constantly advising and learning from one another
d. Other: _____

	MAJCOM	NAF	WING	SQ	
a	0	0	0	0	
b	1	5	0	1	16 %
c	3	5	17	13	84 %
d	0	0	0	0	

10. Ideally, I would like for intelligence personnel to be so knowledgeable of the enemy that they could be said to "represent him" on my staff. (circle one)

a. Strongly agree
b. Agree
c. No opinion
d. Disagree
e. Strongly disagree

	MAJCOM	NAF	WING	SQ	
a	0	4	2	3	20 %
b	4	5	15	7	69 %
c	0	0	0	2	4 %
d	0	1	0	2	7 %

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GLOSSARY

AFMPC	Air Force Military Personnel Center
CENTCOM	Central Command
CIA	Central Intelligence Agency
DIA	Defense Intelligence Agency
EUCOM	European Command
FWIC-I	Fighter Weapons Instructor Course - Intelligence
G-2	Intelligence (Joint Staff)
G-3	Operations (Joint Staff)
HUMINT	Human Intelligence
IMINT	Imagery Intelligence
Intel	Intelligence
MAJCOM	Major Command
MASINT	Measurement and Signal Intelligence
NAF	Numbered Air Force
PACOM	Pacific Command
PME	Professional Military Education
SIGINT	Signals Intelligence
SOUTHCOM	Southern Command
TQM	Total Quality Management
USAF	United States Air Force